SUMMARY

In FY 1998, Science and Technology consists of Pacific Northwest National Laboratory (Pacific Northwest) Waste Management (WBS 1.7.1.1, Project Baseline Summary [PBS] ST01) and Science and Technologies (WBS 1.7.2.1, PBS ST02). PBS ST02 is DOE-HQ work scope and is currently unfunded.

Environmental Compliance and Technical Support Services staff held meetings with Radiological Control Organization and 325 Building Management personnel to determine the best approach for conducting the nondestructive examinations (NDE) of the 325 Building's piping that is to be connected to the new radioactive liquid waste system (RLWS) tank. A plan was devised that will allow successful completion of the needed inspections without entering Rooms 40/40A airborne contamination areas. Pipe associated with the Liquid Transfer Station and decontamination cleaner will have NDE via inspection of the three-inch main RLWS header downstream of where these pipes connect. It is expected that visual examination and confirmation of the pipe condition will be made when the pipe is cut, prior to connection to the new RLWS piping. The inspections will be preceded with an engineering walk through to identify and mark piping for the inspections. Final inspection of the installed piping will be performed as a part of the readiness assessment.

The RL National Environmental Policy Act (NEPA) Compliance Officer informed contractors that DOE-HQ wants to rescind site-wide categorical exclusions (CX) in use at field offices, as a result of concern that the application of site-wide CX does not fulfill the legal requirement that NEPA determinations be made by federal agency staff. Hanford has more than 20 site-wide NEPA CX currently in place. After receiving input from field staff, DOE-HQ decided not to implement this action in the near-term, however, they would eventually like to do away with site-wide CX. When or if this happens, it will adversely impact costs and schedules, as well as increase workloads within contractor and RL organizations.

The megarule has not yet been issued by U.S. Environmental Protection Agency (EPA), therefore the activity to implement the megarule requirements in the Laboratory has not been initiated. Current schedules indicate that EPA expects to issue the megarule in April. Depending on the final rule, potential cost savings to Pacific Northwest could result regarding disposition of bulk polychlorinated biphenyl (PCB) wastes. However, additional costs will result from additional analytical characterization and newly regulated PCB sources (e.g., PCB small capacitors).

The effort to support the development of a site-wide PCB management strategy is largely on track. A draft Federal Facility Compliance Agreement has been developed by the strategy team, and revisions and refinements of the technical aspects are continuing. This strategy will allow alternate compliance with regulations applicable to the unique Hanford Site situation concerning the presence of PCBs in radiation areas.

Pacific Northwest pollution prevention (P2) staff facilitated the affirmative procurement (now to be called EO12873) session at the U.S. Department of Energy's workshop for Pollution Prevention Coordinators in Denver, Colorado. P2 staff were invited by the State of Washington, Department of Ecology to participate on a committee to develop a template for organizations for resource efficient building. In addition, P2 staff submitted an abstract for an EO12873 workshop at the National Recycling Association's Conference in September and submitted the nomination of Pacific Northwest for a Washington State Department of Ecology Pollution Prevention award.

A call for proposals went out for P2 projects to implement within the Pacific Northwest. Six pre-proposals were received and are being reviewed by the Advisory Board. Requests for funding will go to DOE on approved proposals in early April.

Assistance was given to researchers to write implementation proposals for the second solicitation round for P2 Advisory Board proposals. The P2 web page was updated with the information regarding the second call for proposals and the 1995 DOE-HQ Return on Investment final report for the RL-02 Microscale Chemistry project was revised.

Implementation of streamlining initiatives within Pacific Northwest’s waste operations system is currently underway. As a result of an effort to evaluate potential long-term cost reengineering within both Pacific Northwest and Hanford Waste Management Systems, a series of potential initiatives was developed. Full implementation of these measures could save $250,000 per year within Pacific Northwest's system. Potential cost savings initiatives totaling approximately $750,000 within Waste Management Hanford's (WMH) budget control were shared with WMH management.

Approximately 600 gallons of radioactive liquid waste were sent to the 340 Building on March 27 and March 30, 1998. The waste included the remaining 500 gallons of treatment residues from the 331 Building treatment project, the one gallon container of double shell tank/single shell tank (DST/SST) samples, and the 100 gallons of Shielded Analytical Laboratory (SAL) leachate waste from the TK-1 tank.

Facility moves are well under way with 324/3718G Buildings staff moving to the Applied Process Engineering Laboratory (APEL); 3720 Building staff moving to the Physical Sciences Laboratory (PSL), 331 Building, and APEL; and LSL-II Building staff moving to PSL and the 331 Building. Engineering Field Services (EFS) staff efforts in these moves have included evening barricaded shipments of hazardous research chemical stocks and the processing of thousands of containers of unwanted chemical stocks and old unneeded samples. These efforts to date have been completed without a transportation or environmental incident. These continuing efforts will impact EFS and other portions of Environmental Management Services (EMS) because it is expected that these moves will extend through early summer.

Effluent Management staff collected all required air and water samples during the month of March and confirmed that all effluents discharged were below historical release levels and compliant with existing permits. The volatile organic compound stack testing required by the Environmental Molecular Sciences Laboratory (EMSL) construction permit was

completed and the source testing report required by Milestone RLSTO12855, “Submit Stack Test Results to DOE-RL,” was submitted on February 26, one month ahead of schedule. Radiological air emission data from Pacific Northwest, for calendar year 1997, was submitted on March 16, one month ahead of schedule, thereby satisfying RLSTO12856, “Conduct Compliant Radiological Air Monitoring and Reporting.” All routine permitting and regulatory coordination work is proceeding as scheduled except water permitting activities, which are delayed due to resource constraints at the affected regulatory agencies. The delays are of low impact and do not affect Pacific Northwest’s current compliance status.

Regarding the 325 Surveillance and Maintenance (S&M) Project, all radiological surveys, nuclear control inspections, and preventive maintenance checks where completed. The Miscellaneous S&M Project inspected six facilities with no significant issues identified. All facility inspections are up to date.

Regarding the 204 AR Building Modification Project, design review documents were forwarded to 204 AR Building personnel and procurement of electrical equipment was completed. The date to test truck access is being delayed because of 204 AR Building operation issues, which should not impact the schedule.

Regarding the 325 Building Load Out Modifications, construction is progressing as scheduled. The tank will be delivered in early April. Pit work nears completion and mechanical and electrical work is on going. Truck lock extension work is in progress.

The Readiness Assessment methodology has been reviewed with the project team. The procedures for the operation of the tank in the 325 Building and 204 AR Building have been drafted and review started.

Within the Essential ES&H Drawings Project, the tagging effort is getting back on schedule. The drawing voiding effort is slightly behind, but drawings that need to be reviewed for voiding have been identified and sent to the 325 Building for review.

ACCOMPLISHMENTS

- Submitted “1997 Annual Report of Waste Generation and Pollution Prevention Progress,” on March 12, four and one-half months early. (RLST011818)
- Sent approximately 600 gallons of radioactive liquid waste to the 340 Building on March 27 and March 30. (Planned)
- Packaging and Transportation staff performed impact evaluation of DOE Orders 1540.1A, 1540.2, and 5480.3, on schedule. (Planned)
- Completed the 90 Day Accumulation Area (DAA) Compliance Documentation for operating the 90 DAA in APEL on schedule. (Planned)
- Provided the sampling and analysis plan on schedule for Waste Identification Data System (WIDS) Characterization to Ecology and the U.S. Environmental Protection Agency. (Planned)

- Completed the clean out of the final fumehood and disposal of contaminated equipment in the glove box located in the 325 Building, Room 406 on schedule. (Planned)
- Completed documentation of detailed information on the spent fuel fragments in the high level radiochemistry facility on schedule. (Planned)
- Transmitted radiological air emission data from Pacific Northwest for CY 1997 to Waste Management Federal Services of Hanford Inc. on March 16, one month ahead of schedule. (RLSTO12856)
- Completed design review for '204 AR Building Modifications' four days ahead of schedule. (Planned)
- Completed "As Built (A/B) Previously selected 325 Alarm System Drawings," three days ahead of schedule. (RLSTO13854)

COST PERFORMANCE ($M)

	BCWP	ACWP	VARIANCE
Science & Technology	$7.4	$6.7	$0.7

The $0.7 million (nine percent) favorable cost variance is within established thresholds.

SCHEDULE PERFORMANCE ($M)

	BCWP	BCWS	VARIANCE
Science & Technology	$7.4	$7.9	($ 0.5)

The $0.5 million (six percent) unfavorable schedule variance is within established thresholds.

ISSUES

1) **Issue/Impact:** Ecology is still proceeding with its intent to regulate certain types of "simulants" (chemicals used in testing as surrogates for dangerous waste).

   Strategy/Status: Pacific Northwest staff intend to meet with Ecology (and EPA if they will agree to participate) to discuss the impacts of that proposal on the Laboratory's activities.

2) **Issue/Impact:** No more explosives are permitted to be stored in the 305-B Building, as explosives are not allowed per the Facility Use Agreement (FUA). The Permit provides that one pound may be stored, however, the FUA references a set of

regulations that will not allow this under the current conditions in 305-B Building. There will be a significant financial impact if explosives are not permitted to be stored in the 305-B Building. Every explosives shipment costs $9,000. Costs will increase significantly if explosives are shipped out on the 90-day clock.

Strategy/Status: Staff have worked with Safety personnel to identify all requirements, and are currently obtaining all equipment for safe storage of explosives, and will be modifying the Permit. Procurement of the explosive equipment has been held up in contracts, so a comparative cost analysis could be performed. The equipment will be on the Hanford Site by April 30. Modification of the 305-B Resource Conservation and Recovery Act (RCRA) Part B permit has commenced and will include the new explosives storage cabinet. The 305-B Building is scheduled to resume the receipt of explosive wastes by May 15.

3) **Issue/Impact:** Pacific Northwest staff have been unable to move several transuranic waste drums from the basement of the 325 Building. These drums were already scheduled to be moved for real time radiography (RTR) at the 306-E Building.

Strategy/Status: Pacific Northwest has encountered radiological control issues surrounding the movement of these high dose rate containers and is seeking a variance from WMH as it pertains to visual verification of the inner contents. The project was unable to gain the variance for verification of the high dose rate transuranic (TRU) drums in Room 64 of the 325 Building. During the most recent TRU verification, one drum failed due to contained liquids, so the TRU stream remains at 100 percent verification. A work plan has been submitted to 325 Radiological Control for movement of the high dose rate drums. Approval of this plan is expected soon, with shipment to 306-E for verification in early April.

4) **Issue/Impact:** It was determined that the Yakima Office of Ecology would be involved in reviewing the proposed characterization activities at the Atomic Energy Commission (AEC) bus lot property. It was recommended that a Technical Assistance visit be scheduled in late April or early May. During this visit, a draft sampling and analysis plan will be presented to Ecology for review. It was later learned that Ecology is sponsoring informal workshops in April and May to present information regarding the Voluntary Cleanup Program under Model Toxic Control Act (MTCA). There is a potential for significant remediation costs for this property.

Strategy/Status: Project staff will attend the Ecology workshops in April and, based on the information provided, will reevaluate whether a Technical Assistance visit is the appropriate mechanism for involving Ecology.

5) **Issue/Impact:** Commencement of sampling for the Waste Identification Data System (WIDS) characterization task has been postponed until the Ecology comments on the sampling and analysis plan have been addressed. Delays in initiating sampling could increase costs.

Strategy/Status: The incorporation of Ecology comments and response to comments is in progress. Upon completion and review of changes and comments on the sample and analysis plan, sampling should commence.

6) **Issue/Impact:** Pacific Northwest is currently negotiating with Lockheed Martin Hanford to place a Memorandum of Understanding (MOU) that would allow emergency decontamination liquids from the 325 Building emergency decontamination showers to be disposed via the RLWS.

Strategy/Status: There is no change in status. The 325 RLWS was utilized in January. The MOU for the LR56 cask was drafted and is being reviewed by Pacific Northwest legal department.

7) **Issue/Impact:** There is a continued focus on proper and consistent waste identification across the lab.

Strategy/Status: A commitment has been made to DOE and Ecology to use a validated and consistent waste composition calculation spreadsheet when calculating the final compositions of complex satellite accumulation containers (“slop jars”) and other mixtures. The calculational tools for preparing slop jar or other complex waste stream inventory sheets, and chemical disposal recycle records (CDRR) were completed in March and are available for lab-wide use. An additional program written for other wastes that require additional computational calculations was also completed, which resolves the “spreadsheet” issue noted in prior Environmental Field Services reports.

8) **Issue/Impact:** The temporary shutdown of the 204 AR Facility operations is currently impacting the construction project that is planned to modify the transfer system in the building. These modifications are required to provide at the Hanford Site the ability to off load the LR-56 French Tanker Safely. These system modifications are required to support the planned start of the deactivation of the 340 Facility and the Hanford Railroad. These deactiviation projects are scheduled to begin in October of 1998. The continuing closure of the 204 AR Facility could directly impact these two scheduled milestones for the Hanford Site.

Strategy/Status: The temporary operational shutdown will continue until the Authorization Basis for the 204 AR Facility is modified. This needed modification will be developed by the 204 AR Facility Engineer. Once the modification is prepared, Lockheed's Safety and License Group will review the modification and then prepare a change package. The change package will then be transmitted to RL for approval. Access to the facility can then be gained and construction initiated following RL approval of the Authorization Basis modification.

COST VARIANCE ANALYSIS: $0.7

WBS/PBS	Title
1.7/ST01	PNNL Waste Management

Cause: The current positive variance is within established thresholds, however, the variance is primarily associated with the operating expense projects where there was a combination of billing delays and efficiencies on planned tasks.
Impact: None
Corrective Action: The variance will be reduced upon receipt of delayed billings.

SCHEDULE VARIANCE ANALYSIS: ($0.5)

WBS/PBS	Title
1.7/ST01	PNNL Waste Management

Cause: Within established thresholds
Impact:
Corrective Action:

1.7/ST02	Science and Technologies

Cause:
Impact:
Corrective Action:

MILESTONE EXCEPTION REPORT

Number/WBS	Level	Title	Baseline Date	Forecast Date

OVERDUE - 0

FORECAST LATE - 0